

ABSTRACT OF THE DISCLOSURE

A radiotherapy system, and preferably a brachytherapy system, for delivering radiation to tissue surrounding an interstitial space is provided. While the system can be used for a variety of purposes, the system is preferably used to treat spinal metastases. In general, the system includes a catheter member having a proximal end, a distal end, and an inner lumen extending therethrough, and a structural support adapted to fit within an interstitial space in load bearing portion of a patient's body and having an internal space for removably receiving the distal end of the catheter member. At least one anchoring element can be disposed proximate to the distal end of the catheter. The anchoring element is preferably adapted to fit within the internal space in the structural support so as to anchor the distal end of the catheter therein. The system further includes a radiation source disposable within the internal space of the structural support through the lumen in the catheter for delivering radiation to tissue surrounding the interstitial space.

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